

REMARKS

These amendments and remarks are being filed in response to the final Office Action dated November 8, 2004. For the following reasons this amendment should be entered, the application allowed, and the case passed to issue.

No new matter or considerations are introduced by this amendment. Amended claim 19 is supported by claim 22. Claim 20 is supported by Figs. 3 and 4, and is amended to overcome an informality. Figures 3 and 4 clearly disclose that the first porosity range is apart from the second porosity range. Claims 21 and 23 are amended to maintain consistency with claim 19. Claim 40 was amended to correct an informality. New claim 42 corresponds to claim 23 written in independent form. New claims 43-46 correspond to claims 24, 25, 37, 38, respectively. New claim 47 corresponds to allowable claim 32 written in independent form.

Claims 19-21 and 23-47 are pending in this application. Claims 19, 22, 26-31, and 33-36 have been rejected. Claims 23-25, 32, 37, 38, and 40 are objected to. Claims 39-41 have been allowed. Claim 22 has been canceled in this response, and claims 1-18 were previously canceled. Claims 42-47 have been newly added.

Claim Objections

Claim 40 is objected to because “5 am” should be “5 μm ”. This objection is traversed, and reconsideration and withdrawal respectfully requested. Claim 40 has been amended to correct this informality.

Claim Rejections Under 35 U.S.C. § 112

Claims 20 and 21 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

Claim 20 has been amended to recite that the first porosity range is apart from the second porosity range. The instant disclosure clearly disclose a first porosity range apart from the second porosity range. For example, Fig. 3 teaches a first porosity of 40% apart from the porosity of 60%. Fig. 4 teaches first porosity range 21A is apart from second porosity range 21B.

Claim Rejections Under 35 U. S. C. § 103

Claims 19, 26-31, and 33-36 were rejected under 35 U. S. C. 103(a) as being unpatentable over Kawakami et al. (U.S. Pat. No. 6,432,585) in view of Kohama (JP 11-31498). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested. The following is a comparison between the instant invention, as claimed, and the cited prior art

An aspect of the present invention, per claim 19, is a rechargeable lithium ion battery comprising a positive electrode comprising a collecting electrode and an active material layer formed on the collecting electrode. The active material layer contains particles of a positive electrode active material within a prescribed particle size range. The active material layer has a thickness within a prescribed layer thickness range. The active material layer comprises a first active material layer having a first porosity within a first porosity range and a second active material layer having a second porosity within a second porosity range higher than the first porosity range. The rechargeable lithium ion battery further comprises a negative electrode and a non-aqueous electrolytic solution.

As recognized by the Examiner, Kawakami et al. do not disclose that the porosity changes along a direction of the layer thickness. The Examiner asserted that JP '498 teaches a layer of active material having a porosity thereof changed along its thickness. The Examiner

concluded that it would have been obvious to modify Kawakami et al.'s invention by changing the porosity along the thickness direction to increase battery capacity and cycle characteristics.

Kawakami et al. and JP '498, whether taken alone, or in combination, do not suggest the claimed rechargeable lithium ion battery. Kawakami et al. and JP '498 do not suggest the active material layer comprising a first active material layer having a first porosity within a first porosity range and a second active material layer having a second porosity within a second porosity range higher than the first porosity range, as required by claim 19.

Claims 19, 22, 26-31, and 33-36 were rejected under 35 U. S. C. 103(a) as being unpatentable over Kawakami et al. in view of Wang et al. (U.S. Pat. No. 6,159,636). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

The Examiner acknowledged that Kawakami et al. do not disclose first and second active material layers with first and second porosities. The Examiner averred that Wang et al. disclose a second active layer. The Examiner concluded that it would have been obvious to employ a second active layer in Kawakami et al. to increase the specific capacity of the battery cell. The Examiner alleged that the first and second active layers would inherently have different porosities.

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge readily available to one of ordinary skill in the art. *In re Kotzab*, 217 F.3d 1365, 1370 55 USPQ2d 1313, 1317 (Fed. Cir. 2000); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). There is no suggestion in Wang et al. to modify the battery of Kawakami et al. so that it has an active material layer comprising a first active material layer having a first porosity within a first

porosity range and a second active material layer having a second porosity within a second porosity range higher than the first porosity range, as required by claim 19.

The requisite motivation to support the ultimate legal conclusion of obviousness under 35 U.S.C. § 103 is not an abstract concept, but must stem from the applied prior art as a whole and realistically impel one having ordinary skill in the art to modify a specific reference in a specific manner to arrive at a specifically claimed invention. *In re Deuel*, 51 F.3d 1552, 34 USPQ2d 1210 (Fed. Cir. 1995); *In re Newell*, 891 F.2d 899, 13 USPQ2d 1248 (Fed. Cir. 1989).

Accordingly, the Examiner is charged with the initial burden of identifying a source in the applied prior art for the requisite realistic motivation. *Smiths Industries Medical System v. Vital Signs, Inc.*, 183 F.3d 1347, 51 USPQ2d 1415 (Fed. Cir. 1999); *In re Mayne*, 104 F.3d 1339, 41 USPQ2d 1449 (Fed. Cir. 1997). There is no motivation in Wang et al. to modify the battery of Kawakami et al. so that it has an active material layer comprising a first active material layer having a first porosity within a first porosity range and a second active material layer having a second porosity within a second porosity range higher than the first porosity range, as required by claim 19.

In rejecting a claim under 35 U.S.C. § 103, the Examiner is required to discharge the initial burden by, *inter alia*, making "**clear and particular**" factual findings as to a **specific understanding or specific technological principle** which would have **realistically impelled** one having ordinary skill in the art to modify an applied reference to arrive at the claimed invention based upon facts, -- not generalizations. *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 57 USPQ2d 1161 (Fed. Cir. 2000); *Ecolochem Inc. v. Southern California Edison, Co.*, 227 F.3d 1361, 56 USPQ2d 1065 (Fed. Cir. 2000); *In re Kotzab, supra*; *In re Dembiczkak*, 175 F.3d 994, 50 USPQ2d 1614 (Fed. Cir. 1999). That burden has not been discharged, as the Examiner has provided no factual basis for modifying the Kawakami et al. battery to include an active material

layer comprising a first active material layer having a first porosity within a first porosity range and a second active material layer having a second porosity within a second porosity range higher than the first porosity range, as required by claim 19.

The only teaching of the rechargeable lithium ion battery with the claimed active material layer comprising a first active material layer having a first porosity within a first porosity range and a second active material layer having a second porosity within a second porosity range higher than the first porosity range is found in Applicants' disclosure. However, the teaching or suggestion to make a claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). The motivation for modifying the prior art must come from the prior art and must be based on facts.

Furthermore, the Examiner did not provide a factual basis to support the allegations that the combination of Kawakami et al. and Wang et al. would inherently comprise an active material layer comprising a first active material layer having a first porosity within a first porosity range and a second active material layer having a second porosity within a second porosity range higher than the first porosity range. The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). "Inherency . . . may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999)(citations omitted). Clearly, the Examiner's assertion that the combination of the prior art teachings would inherently meet the limitations of claim 19 is incorrect.

Although the Examiner concluded that the combination of Kawakami et al. and Wang et al. would produce a battery that inherently included an active material layer comprising a first active material layer having a first porosity within a first porosity range and a second active material layer having a second porosity within a second porosity range higher than the first porosity range, as required by claim 19, the Examiner's conclusion lacks the requisite factual support. The Examiner's retrospective assessment of the claimed invention and use of unsupported conclusory statements are not legally sufficient to generate a case of *prima facie* obviousness. The motivation for modifying the prior art must come from the prior art and must be based on facts. The Examiner is not free to ignore the judicial requirement for **facts**. To do so is legal error. *In re Lee*, 277 F.3d 1338 (Fed. Cir. 2002).

The dependent claims further distinguish the claimed invention. For example, claim 20 requires that the first porosity range is apart from the second porosity range. The cited prior art does not suggest the claimed rechargeable lithium ion battery with this additional limitation.

Allowable Subject Matter

Claims 23-25, 30¹, 37, and 38 are objected to but would be allowable if rewritten in independent form. Claims 39-41 are allowed.

Applicants gratefully acknowledge the indication of allowable subject matter. In accordance with the Examiner's recommendations, claims 23, 24, 25, 37, 38, and 32 have been rewritten as new claims 42, 43, 44, 45, 46, and 47, respectively.

In view of the above amendments and remarks, Applicants submit that this amendment should be entered, the case allowed, and passed to issue. If there are any questions regarding this

¹ Claim 30 is indicated as allowable, however, claim 30 was rejected in view of prior art. Therefore, it appears that the Examiner intended to indicate that claim 32 was allowable, because claim 32 was not rejected in view of the prior art.

Amendment or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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